SEQUENCE LISTING

<110> Friedrich-Alexander-University Erlangen-Nuremberg

<120> Peptide-based method for monitoring gene expression in a host
       cell

<130> H1776 US

<140> US 10/594,262
<141> 2006-09-25

<150> EP 04 00 7278.7
<151> 2004-03-26

<150> US 60/570,497
<151> 2004-05-13

<160> 33

<170> PatentIn version 3.3

<210> 1
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<213> Artificial sequence

<220>
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       affinity to the Tet repressor"

<400> 1

Met Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser Gly Gly Gly
1   5   10   15

Ser

<210> 2
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<400> 2

Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser Gly Gly Gly Ser
1   5   10   15

<210> 3
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> /note="Description of artificial sequence: polypeptides with

affinity to the Tet repressor"

<400>   3

Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10

<210>   4
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<212>   PRT
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<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   4

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10   15

Gly Gly Gly Ser
            20

<210>   5
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<212>   PRT
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<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   5

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Ala Ser
1   5   10   15

Gly Gly Gly Ser
            20

<210>   6
<211>   20
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<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   6

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ala
1   5   10   15

Gly Gly Gly Ser
            20

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<210>  7
<211>  20
<212>  PRT
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<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  7
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Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10   15

Gly Arg Gly Ser
            20


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<210>  8
<211>  20
<212>  PRT
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       affinity to the Tet repressor"

<400>  8
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Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10   15

Asp Gly Gly Leu
            20


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<210>  9
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<212>  PRT
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<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  9
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Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10   15

Gly Glu Gly Ser
            20


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<210>  10
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<212>  PRT
<213>  Artificial sequence
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<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  10

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1               5                   10                  15


Gly Gly Gly Trp
            20



<210>  11
<211>  20
<212>  PRT
<213>  Artificial sequence

<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  11

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1               5                   10                  15


Gly Gly Cys Ser
            20



<210>  12
<211>  20
<212>  PRT
<213>  Artificial sequence

<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  12

Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1               5                   10                  15


Gly Gly Asp Ser
            20



<210>  13
<211>  20
<212>  PRT
<213>  Artificial sequence

<220>
<223>  /note="Description of artificial sequence: polypeptides with
       affinity to the Tet repressor"

<400>  13
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Ser Gly Gly Ala Trp Thr Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser
1   5   10   15

Gly Gly Arg Ser
            20

<210>   14
<211>   20
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   14

Ser Gly Gly Ala Trp Thr Trp Asn Ala Phe Ala Phe Ala Ala Pro Ser
1   5   10   15

Gly Gly Gly Ser
            20

<210>   15
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<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   15

Ala Val Ser Tyr Thr His Leu Gly Gly Ala Gly Gly Ala Trp Thr Trp
1   5   10   15

Asn Ala Tyr Ala Phe Ala Ala Pro Ser Gly Gly Gly Ser
            20   25

<210>   16
<211>   30
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: polypeptides with
        affinity to the Tet repressor"

<400>   16

Ala Val Ser Tyr Thr His Leu Ser Gly Gly Ala Gly Gly Ala Trp Thr
1   5   10   15

Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser Gly Gly Gly Ser

<210> 17
<211> 30
<212> PRT
<213> Artificial sequence

<220>
<223> /note="Description of artificial sequence: polypeptides with
      affinity to the Tet repressor"

<400> 17

Leu Ser Leu Ile His Ile Ser Gly Gly Ala Ser Gly Gly Ala Trp Thr
1   5   10   15

Trp Asn Ala Tyr Ala Phe Ala Ala Pro Ser Gly Gly Gly Ser
            20   25   30

<210> 18
<211> 207
<212> PRT
<213> E. coli

<400> 18

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1   5   10   15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
            20   25   30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
            35   40   45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
        50   55   60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65   70   75   80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85   90   95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
                100   105   110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
                115   120   125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
    130   135   140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145   150   155   160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165   170   175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
                180   185   190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser
                195   200   205

<210>   19
<211>   335
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: tTA (TetR-VP16)"

<400>   19

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1   5   10   15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
                20   25   30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
                35   40   45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
        50   55   60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65   70   75   80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85   90   95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
                100   105   110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
                115   120   125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
        130   135   140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145   150   155   160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
            165   170   175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
            180   185   190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser Ala
            195   200   205

Tyr Ser Arg Ala Arg Thr Lys Asn Asn Tyr Gly Ser Thr Ile Glu Gly
    210   215   220

Leu Leu Asp Leu Pro Asp Asp Ala Pro Glu Glu Ala Gly Leu Ala
225   230   235   240

Ala Pro Arg Leu Ser Phe Leu Pro Ala Gly His Thr Arg Arg Leu Ser
            245   250   255

Thr Ala Pro Pro Thr Asp Val Ser Leu Gly Asp Glu Leu His Leu Asp
            260   265   270

Gly Glu Asp Val Ala Met Ala His Ala Asp Ala Leu Asp Asp Phe Asp
            275   280   285

Leu Asp Met Leu Gly Asp Gly Asp Ser Pro Gly Pro Gly Phe Thr Pro
    290   295   300

His Asp Ser Ala Pro Tyr Gly Ala Leu Asp Met Ala Asp Phe Glu Phe
305   310   315   320

Glu Gln Met Phe Thr Asp Ala Leu Gly Ile Asp Glu Tyr Gly Gly
            325   330   335

<210>   20
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<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: tTA2 (TetR-FFF)"

<400>   20

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1   5   10   15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
        20   25   30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
        35   40   45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
        50   55   60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65   70   75   80

Asn Asn Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85   90   95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
                100   105   110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
        115   120   125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
        130   135   140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145   150   155   160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165   170   175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
                180   185   190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Gly Pro
                195   200   205

Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Pro Ala Asp Ala
        210   215   220

Leu Asp Asp Phe Asp Leu Asp Met Leu Pro Ala Asp Ala Leu Asp Asp
225   230   235   240

Phe Asp Leu Asp Met Leu Pro Gly
                245

<210>   21
<211>   475
<212>   PRT

<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: tTA-p65 (TetR-p65)"

<400>   21

Met Ser Arg Leu Asp Lys Ser Lys Val Ile Asn Ser Ala Leu Glu Leu
1   5   10   15

Leu Asn Glu Val Gly Ile Glu Gly Leu Thr Thr Arg Lys Leu Ala Gln
                20   25   30

Lys Leu Gly Val Glu Gln Pro Thr Leu Tyr Trp His Val Lys Asn Lys
                35   40   45

Arg Ala Leu Leu Asp Ala Leu Ala Ile Glu Met Leu Asp Arg His His
        50   55   60

Thr His Phe Cys Pro Leu Glu Gly Glu Ser Trp Gln Asp Phe Leu Arg
65   70   75   80

Asn Lys Ala Lys Ser Phe Arg Cys Ala Leu Leu Ser His Arg Asp Gly
                85   90   95

Ala Lys Val His Leu Gly Thr Arg Pro Thr Glu Lys Gln Tyr Glu Thr
                100   105   110

Leu Glu Asn Gln Leu Ala Phe Leu Cys Gln Gln Gly Phe Ser Leu Glu
                115   120   125

Asn Ala Leu Tyr Ala Leu Ser Ala Val Gly His Phe Thr Leu Gly Cys
        130   135   140

Val Leu Glu Asp Gln Glu His Gln Val Ala Lys Glu Glu Arg Glu Thr
145   150   155   160

Pro Thr Thr Asp Ser Met Pro Pro Leu Leu Arg Gln Ala Ile Glu Leu
                165   170   175

Phe Asp His Gln Gly Ala Glu Pro Ala Phe Leu Phe Gly Leu Glu Leu
                180   185   190

Ile Ile Cys Gly Leu Glu Lys Gln Leu Lys Cys Glu Ser Gly Ser Ser
                195   200   205

Glu Phe Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg Ile Glu Glu
        210   215   220

Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys Ser
225   230   235   240

Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Pro Arg Arg Ile Ala
            245   250   255

Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala Pro Gln Pro
            260   265   270

Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe Pro
            275   280   285

Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu Ala
    290   295   300

Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro Ala
305   310   315   320

Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro Val
            325   330   335

Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys Pro
            340   345   350

Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu Gln
            355   360   365

Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp Pro
    370   375   380

Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln Gln
385   390   395   400

Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro Met
            405   410   415

Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala Gln
            420   425   430

Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro
            435   440   445

Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp Met
    450   455   460

Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser
465   470   475

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<210> 22
<211> 360
<212> PRT
<213> E. coli

<400> 22

Met Lys Pro Val Thr Leu Tyr Asp Val Ala Glu Tyr Ala Gly Val Ser
1   5   10   15

Tyr Gln Thr Val Ser Arg Val Val Asn Gln Ala Ser His Val Ser Ala
            20   25   30

Lys Thr Arg Glu Lys Val Glu Ala Ala Met Ala Glu Leu Asn Tyr Ile
            35   40   45

Pro Asn Arg Val Ala Gln Gln Leu Ala Gly Lys Gln Ser Leu Leu Ile
        50   55   60

Gly Val Ala Thr Ser Ser Leu Ala Leu His Ala Pro Ser Gln Ile Val
65   70   75   80

Ala Ala Ile Lys Ser Arg Ala Asp Gln Leu Gly Ala Ser Val Val Val
                85   90   95

Ser Met Val Glu Arg Ser Gly Val Glu Ala Cys Lys Ala Ala Val His
            100   105   110

Asn Leu Leu Ala Gln Arg Val Ser Gly Leu Ile Ile Asn Tyr Pro Leu
            115   120   125

Asp Asp Gln Asp Ala Ile Ala Val Glu Ala Ala Cys Thr Asn Val Pro
    130   135   140

Ala Leu Phe Leu Asp Val Ser Asp Gln Thr Pro Ile Asn Ser Ile Ile
145   150   155   160

Phe Ser His Glu Asp Gly Thr Arg Leu Gly Val Glu His Leu Val Ala
                165   170   175

Leu Gly His Gln Gln Ile Ala Leu Leu Ala Gly Pro Leu Ser Ser Val
            180   185   190

Ser Ala Arg Leu Arg Leu Ala Gly Trp His Lys Tyr Leu Thr Arg Asn
            195   200   205

Gln Ile Gln Pro Ile Ala Glu Arg Glu Gly Asp Trp Ser Ala Met Ser
    210   215   220

Gly Phe Gln Gln Thr Met Gln Met Leu Asn Glu Gly Ile Val Pro Thr
225   230   235   240

Ala Met Leu Val Ala Asn Asp Gln Met Ala Leu Gly Ala Met Arg Ala
                245   250   255

Ile Thr Glu Ser Gly Leu Arg Val Gly Ala Asp Ile Ser Val Val Gly
            260   265   270

Tyr Asp Asp Thr Glu Asp Ser Ser Cys Tyr Ile Pro Pro Ser Thr Thr
        275   280   285

Ile Lys Gln Asp Phe Arg Leu Leu Gly Gln Thr Ser Val Asp Arg Leu
    290   295   300

Leu Gln Leu Ser Gln Gly Gln Ala Val Lys Gly Asn Gln Leu Leu Pro
305   310   315   320

Val Ser Leu Val Lys Arg Lys Thr Thr Leu Ala Pro Asn Thr Gln Thr
                325   330   335

Ala Ser Pro Arg Ala Leu Ala Asp Ser Leu Met Gln Leu Ala Arg Gln
            340   345   350

Val Ser Arg Leu Glu Ser Gly Gln
        355   360

<210>   23
<211>   350
<212>   PRT
<213>   Bacillus

<400>   23

Met Thr Gly Leu Asn Lys Ser Thr Val Ser Ser Gln Val Asn Thr Leu
1   5   10   15

Met Lys Glu Ser Met Val Phe Glu Ile Gly Gln Gly Gln Ser Ser Gly
            20   25   30

Gly Arg Arg Pro Val Met Leu Val Phe Asn Lys Lys Ala Gly Tyr Ser
        35   40   45

Val Gly Ile Asp Val Gly Val Asp Tyr Ile Asn Gly Ile Leu Thr Asp
    50   55   60

Leu Glu Gly Thr Ile Val Leu Asp Gln Tyr Arg His Leu Glu Ser Asn
65   70   75   80

Ser Pro Glu Ile Thr Lys Asp Ile Leu Ile Asp Met Ile His His Phe
                85   90   95

Ile Thr Gln Met Pro Gln Ser Pro Tyr Gly Phe Ile Gly Ile Gly Ile
            100   105   110

Cys Val Pro Gly Leu Ile Asp Lys Asp Gln Lys Ile Val Phe Thr Pro
        115   120   125

Asn Ser Asn Trp Arg Asp Ile Asp Leu Lys Ser Ser Ile Gln Glu Lys
    130   135   140

Tyr Asn Val Ser Val Phe Ile Glu Asn Glu Ala Asn Ala Gly Ala Tyr
145   150   155   160

Gly Glu Lys Leu Phe Gly Ala Ala Lys Asn His Asp Asn Ile Ile Tyr
            165   170   175

Val Ser Ile Ser Thr Gly Ile Gly Ile Gly Val Ile Ile Asn Asn His
            180   185   190

Leu Tyr Arg Gly Val Ser Gly Phe Ser Gly Glu Met Gly His Met Thr
        195   200   205

Ile Asp Phe Asn Gly Pro Lys Cys Ser Cys Gly Asn Arg Gly Cys Trp
    210   215   220

Glu Leu Tyr Ala Ser Glu Lys Ala Leu Leu Lys Ser Leu Gln Thr Lys
225   230   235   240

Glu Lys Lys Leu Ser Tyr Gln Asp Ile Ile Asn Leu Ala His Leu Asn
            245   250   255

Asp Ile Gly Thr Leu Asn Ala Leu Gln Asn Phe Gly Phe Tyr Leu Gly
            260   265   270

Ile Gly Leu Thr Asn Ile Leu Asn Thr Phe Asn Pro Gln Ala Val Ile
        275   280   285

Leu Arg Asn Ser Ile Ile Glu Ser His Pro Met Val Leu Asn Ser Met
    290   295   300

Arg Ser Glu Val Ser Ser Arg Val Tyr Ser Gln Leu Gly Asn Ser Tyr
305   310   315   320

Glu Leu Leu Pro Ser Ser Leu Gly Gln Asn Ala Pro Ala Leu Gly Met
            325   330   335

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Ser Ser Ile Val Ile Asp His Phe Leu Asp Met Ile Thr Met
        340             345             350
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<210>   24
<211>   292
<212>   PRT
<213>   E. coli
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<400>   24
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Met Ala Glu Ala Gln Asn Asp Pro Leu Leu Pro Gly Tyr Ser Phe Asn
1               5               10              15
```

```
Ala His Leu Val Ala Gly Leu Thr Pro Ile Glu Ala Asn Gly Tyr Leu
            20              25              30
```

```
Asp Phe Phe Ile Asp Arg Pro Leu Gly Met Lys Gly Tyr Ile Leu Asn
        35              40              45
```

```
Leu Thr Ile Arg Gly Gln Gly Val Val Lys Asn Gln Gly Arg Glu Phe
    50              55              60
```

```
Val Cys Arg Pro Gly Asp Ile Leu Leu Phe Pro Pro Gly Glu Ile His
65              70              75              80
```

```
His Tyr Gly Arg His Pro Glu Ala Arg Glu Trp Tyr His Gln Trp Val
            85              90              95
```

```
Tyr Phe Arg Pro Arg Ala Tyr Trp His Glu Trp Leu Asn Trp Pro Ser
            100             105             110
```

```
Ile Phe Ala Asn Thr Gly Phe Phe Arg Pro Asp Glu Ala His Gln Pro
            115             120             125
```

```
His Phe Ser Asp Leu Phe Gly Gln Ile Ile Asn Ala Gly Gln Gly Glu
    130             135             140
```

```
Gly Arg Tyr Ser Glu Leu Leu Ala Ile Asn Leu Leu Glu Gln Leu Leu
145             150             155             160
```

```
Leu Arg Arg Met Glu Ala Ile Asn Glu Ser Leu His Pro Pro Met Asp
                165             170             175
```

```
Asn Arg Val Arg Glu Ala Cys Gln Tyr Ile Ser Asp His Leu Ala Asp
            180             185             190
```

```
Ser Asn Phe Asp Ile Ala Ser Val Ala Gln His Val Cys Leu Ser Pro
    195             200             205
```

```
Ser Arg Leu Ser His Leu Phe Arg Gln Gln Leu Gly Ile Ser Val Leu
    210             215             220

Ser Trp Arg Glu Asp Gln Arg Ile Ser Gln Ala Lys Leu Leu Leu Ser
225             230             235             240

Thr Thr Arg Met Pro Ile Ala Thr Val Gly Arg Asn Val Gly Phe Asp
                245             250             255

Asp Gln Leu Tyr Phe Ser Arg Val Phe Lys Lys Cys Thr Gly Ala Ser
            260             265             270

Pro Ser Glu Phe Arg Ala Gly Cys Glu Glu Lys Val Asn Asp Val Ala
        275             280             285

Val Lys Leu Ser
    290


<210>   25
<211>   194
<212>   PRT
<213>   E. coli

<400>   25

Met Pro Arg Pro Lys Leu Lys Ser Asp Asp Glu Val Leu Glu Ala Ala
1               5               10              15

Thr Val Val Leu Lys Arg Cys Gly Pro Ile Glu Phe Thr Leu Ser Gly
            20              25              30

Val Ala Lys Glu Val Gly Leu Ser Arg Ala Ala Leu Ile Gln Arg Phe
        35              40              45

Thr Asn Arg Asp Thr Leu Leu Val Arg Met Met Glu Arg Gly Val Glu
    50              55              60

Gln Val Arg His Tyr Leu Asn Ala Ile Pro Ile Gly Ala Gly Pro Gln
65              70              75              80

Gly Leu Trp Glu Phe Leu Gln Val Leu Val Arg Ser Met Asn Thr Arg
                85              90              95

Asn Asp Phe Ser Val Asn Tyr Leu Ile Ser Trp Tyr Glu Leu Gln Val
            100             105             110

Pro Glu Leu Arg Thr Leu Ala Ile Gln Arg Asn Arg Ala Val Val Glu
        115             120             125
```

Gly Ile Arg Lys Arg Leu Pro Pro Gly Ala Pro Ala Ala Ala Glu Leu
    130   135   140

Leu Leu His Ser Val Ile Ala Gly Ala Thr Met Gln Trp Ala Val Asp
145   150   155   160

Pro Asp Gly Glu Leu Ala Asp His Val Leu Ala Gln Ile Ala Ala Ile
            165   170   175

Leu Cys Leu Met Phe Pro Glu His Asp Asp Phe Gln Leu Leu Gln Ala
          180   185   190

His Ala

<210> 26
<211> 260
<212> PRT
<213> Streptomyces coelicolor

<400> 26

Met Met Ser Arg Gly Glu Val Arg Met Ala Lys Ala Gly Arg Glu Gly
1   5   10   15

Pro Arg Asp Ser Val Trp Leu Ser Gly Glu Gly Arg Arg Gly Gly Arg
          20   25   30

Arg Gly Arg Gln Pro Ser Gly Leu Asp Arg Asp Arg Ile Thr Gly Val
          35   40   45

Thr Val Arg Leu Leu Asp Thr Glu Gly Leu Thr Gly Phe Ser Met His
    50   55   60

Arg Leu Ala Ala Glu Leu Asn Val Thr Ala Met Ser Val Tyr Trp Tyr
65   70   75   80

Val Asp Thr Lys Asp Gln Leu Leu Glu Leu Ala Leu Asp Ala Val Phe
          85   90   95

Gly Glu Leu Arg His Pro Asp Pro Asp Ala Gly Leu Asp Trp Arg Glu
          100   105   110

Glu Leu Arg Ala Leu Ala Arg Glu Asn Arg Ala Leu Leu Val Arg His
          115   120   125

Pro Trp Ser Ser Arg Leu Val Gly Thr Tyr Leu Asn Ile Gly Pro His
    130   135   140

```
Ser Leu Ala Phe Ser Arg Ala Val Gln Asn Val Val Arg Arg Ser Gly
145             150             155             160

Leu Pro Ala His Arg Leu Thr Gly Ala Ile Ser Ala Val Phe Gln Phe
                165             170             175

Val Tyr Gly Tyr Gly Thr Ile Glu Gly Arg Phe Leu Ala Arg Val Ala
            180             185             190

Asp Thr Gly Leu Ser Pro Glu Glu Tyr Phe Gln Asp Ser Met Thr Ala
            195             200             205

Val Thr Glu Val Pro Asp Thr Ala Gly Val Ile Glu Asp Ala Gln Asp
    210             215             220

Ile Met Ala Ala Arg Gly Gly Asp Thr Val Ala Glu Met Leu Asp Arg
225             230             235             240

Asp Phe Glu Phe Ala Leu Asp Leu Leu Val Ala Gly Ile Asp Ala Met
                245             250             255

Val Glu Gln Ala
            260
```

```
<210>   27
<211>   215
<212>   PRT
<213>   Streptomyces coelicolor

<400>   27
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```
Met Ala Lys Gln Asp Arg Ala Ile Arg Thr Arg Gln Thr Ile Leu Asp
1               5               10              15

Ala Ala Ala Gln Val Phe Glu Lys Gln Gly Tyr Gln Ala Ala Thr Ile
                20              25              30

Thr Glu Ile Leu Lys Val Ala Gly Val Thr Lys Gly Ala Leu Tyr Phe
            35              40              45

His Phe Gln Ser Lys Glu Glu Leu Ala Leu Gly Val Phe Asp Ala Gln
    50              55              60

Glu Pro Pro Gln Ala Val Pro Glu Gln Pro Leu Arg Leu Gln Glu Leu
65              70              75              80

Ile Asp Met Gly Met Leu Phe Cys His Arg Leu Arg Thr Asn Val Val
                85              90              95
```

```
Ala Arg Ala Gly Val Arg Leu Ser Met Asp Gln Gln Ala His Gly Leu
            100             105             110

Asp Arg Arg Gly Pro Phe Arg Arg Trp His Glu Thr Leu Leu Lys Leu
        115             120             125

Leu Asn Gln Ala Lys Glu Asn Gly Glu Leu Leu Pro His Val Val Thr
    130             135             140

Thr Asp Ser Ala Asp Leu Tyr Val Gly Thr Phe Ala Gly Ile Gln Val
145             150             155             160

Val Ser Gln Thr Val Ser Asp Tyr Gln Asp Leu Glu His Arg Tyr Ala
                165             170             175

Leu Leu Gln Lys His Ile Leu Pro Ala Ile Ala Val Pro Ser Val Leu
            180             185             190

Ala Ala Leu Asp Leu Ser Glu Glu Arg Gly Ala Arg Leu Ala Ala Glu
            195             200             205

Leu Ala Pro Thr Gly Lys Asp
    210             215
```

```
<210>   28
<211>   527
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: TraR-p65 fusion"

<400>   28
```

```
Met Glu Phe Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg Ile Glu
1               5               10              15

Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met Lys Lys
            20              25              30

Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Arg Arg Ile
        35              40              45

Ala Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala Pro Gln
    50              55              60

Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp Glu Phe
65              70              75              80
```

Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu
                85   90   95

Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro
            100   105   110

Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro
            115   120   125

Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys
    130   135   140

Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu
145   150   155   160

Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp
            165   170   175

Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln
            180   185   190

Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro
            195   200   205

Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala
    210   215   220

Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu
225   230   235   240

Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp
            245   250   255

Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser Gly Ser Ala Arg
            260   265   270

Gly Val Pro Lys Lys Lys Arg Lys Val Gly Ile Gln Glu Gly Ile Ser
            275   280   285

Ala Ala Ser Arg Ser Met Gln His Trp Leu Asp Lys Leu Thr Asp Leu
    290   295   300

Ala Ala Ile Glu Gly Asp Glu Cys Ile Leu Lys Thr Gly Leu Ala Asp
305   310   315   320

Ile Ala Asp His Phe Gly Phe Thr Gly Tyr Ala Tyr Leu His Ile Gln
            325   330   335

His Arg His Ile Thr Ala Val Thr Asn Tyr His Arg Gln Trp Gln Ser
            340   345   350

Thr Tyr Phe Asp Lys Lys Phe Glu Ala Leu Asp Pro Val Val Lys Arg
        355   360   365

Ala Arg Ser Arg Lys His Ile Phe Thr Trp Ser Gly Glu His Glu Arg
    370   375   380

Pro Thr Leu Ser Lys Asp Glu Arg Ala Phe Tyr Asp His Ala Ser Asp
385   390   395   400

Phe Gly Ile Arg Ser Gly Ile Thr Ile Pro Ile Lys Thr Ala Asn Gly
            405   410   415

Phe Met Ser Met Phe Thr Met Ala Ser Asp Lys Pro Val Ile Asp Leu
            420   425   430

Asp Arg Glu Ile Asp Ala Val Ala Ala Ala Ala Thr Ile Gly Gln Ile
        435   440   445

His Ala Arg Ile Ser Phe Leu Arg Thr Thr Pro Thr Ala Glu Asp Ala
    450   455   460

Ala Cys Val Asp Pro Lys Glu Ala Thr Tyr Leu Arg Trp Ile Ala Val
465   470   475   480

Gly Lys Thr Met Glu Glu Ile Ala Asp Val Glu Gly Val Lys Tyr Asn
            485   490   495

Ser Val Arg Val Lys Leu Arg Glu Arg Met Lys Arg Phe Asp Val Arg
            500   505   510

Ser Lys Ala His Leu Thr Ala Leu Ala Ile Arg Arg Lys Leu Ile
        515   520   525

<210>   29
<211>   654
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: Gal4-hpr-p65"

<400>   29

Met Asp Ser Gln Gln Pro Asp Leu Lys Leu Leu Ser Ser Ile Glu Gln
1   5   10   15

```
Ala Cys Asp Ile Cys Arg Leu Lys Lys Leu Lys Cys Ser Lys Glu Lys
         20              25              30

Pro Lys Cys Ala Lys Cys Leu Lys Asn Asn Trp Glu Cys Arg Tyr Ser
         35              40              45

Pro Lys Thr Lys Arg Ser Pro Leu Thr Arg Ala His Leu Thr Glu Val
     50              55              60

Glu Ser Arg Leu Glu Arg Leu Glu Gln Leu Phe Leu Leu Ile Phe Pro
65              70              75              80

Arg Glu Asp Leu Asp Met Ile Leu Lys Met Asp Ser Leu Gln Asp Ile
             85              90              95

Lys Ala Leu Leu Glu Phe Pro Gly Val Asp Gln Lys Lys Phe Asn Lys
             100             105             110

Val Arg Val Val Arg Ala Leu Asp Ala Val Ala Leu Pro Gln Pro Val
         115             120             125

Gly Val Pro Asn Glu Ser Gln Ala Leu Ser Gln Arg Phe Thr Phe Ser
     130             135             140

Pro Gly Gln Asp Ile Gln Leu Ile Pro Pro Leu Ile Asn Leu Leu Met
145             150             155             160

Ser Ile Glu Pro Asp Val Ile Tyr Ala Gly His Asp Asn Thr Lys Pro
             165             170             175

Asp Thr Ser Ser Ser Leu Leu Thr Ser Leu Asn Gln Leu Gly Glu Arg
         180             185             190

Gln Leu Leu Ser Val Val Lys Trp Ser Lys Ser Leu Pro Gly Phe Arg
         195             200             205

Asn Leu His Ile Asp Asp Gln Ile Thr Leu Ile Gln Tyr Ser Trp Met
     210             215             220

Ser Leu Met Val Phe Gly Leu Gly Trp Arg Ser Tyr Lys His Val Ser
225             230             235             240

Gly Gln Met Leu Tyr Phe Ala Pro Asp Leu Ile Leu Asn Glu Gln Arg
             245             250             255

Met Lys Glu Ser Ser Phe Tyr Ser Leu Cys Leu Thr Met Trp Gln Ile
             260             265             270
```

Pro Gln Glu Phe Val Lys Leu Gln Val Ser Gln Glu Glu Phe Leu Cys
        275   280   285

Met Lys Val Leu Leu Leu Leu Asn Thr Ile Pro Leu Glu Gly Leu Arg
    290   295   300

Ser Gln Thr Gln Phe Glu Glu Met Arg Ser Ser Tyr Ile Arg Glu Leu
305   310   315   320

Ile Lys Ala Ile Gly Leu Arg Gln Lys Gly Val Val Ser Ser Ser Gln
            325   330   335

Arg Phe Tyr Gln Leu Thr Lys Leu Leu Asp Asn Leu His Asp Leu Val
            340   345   350

Lys Gln Leu His Leu Tyr Cys Leu Asn Thr Phe Ile Gln Ser Arg Ala
        355   360   365

Leu Ser Val Glu Phe Pro Glu Met Met Ser Glu Val Ile Ala Gly Ser
    370   375   380

Thr Pro Met Glu Phe Gln Tyr Leu Pro Asp Thr Asp Asp Arg His Arg
385   390   395   400

Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser Ile Met
            405   410   415

Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro Arg Pro Pro Pro Arg
            420   425   430

Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser Val Pro Lys Pro Ala
        435   440   445

Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser Thr Ile Asn Tyr Asp
    450   455   460

Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser
465   470   475   480

Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro
            485   490   495

Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro
        500   505   510

Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala
                        Page 23

Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu
    530   535   540

Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser
545   550   555   560

Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu
                565   570   575

Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr
            580   585   590

Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr
        595   600   605

Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro
    610   615   620

Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile
625   630   635   640

Ala Asp Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser
                645   650

<210>   30
<211>   465
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: ZHFD1-FKBP fusion"

<400>   30

Met Asp Tyr Pro Ala Ala Lys Arg Val Lys Leu Asp Ser Arg Glu Arg
1   5   10   15

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser
            20   25   30

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro Phe
        35   40   45

Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu Thr
    50   55   60

Thr His Ile Arg Thr His Thr Gly Gly Gly Arg Arg Arg Lys Lys Arg
65   70   75   80

Thr Ser Ile Glu Thr Asn Ile Arg Val Ala Leu Glu Lys Ser Phe Leu
                85   90   95

Glu Asn Gln Lys Pro Thr Ser Glu Glu Ile Thr Met Ile Ala Asp Gln
            100   105   110

Leu Asn Met Glu Lys Glu Val Ile Arg Val Trp Phe Cys Asn Arg Arg
            115   120   125

Gln Lys Glu Lys Arg Ile Asn Thr Arg Gly Val Gln Val Glu Thr Ile
    130   135   140

Ser Pro Gly Asp Gly Arg Thr Phe Pro Lys Arg Gly Gln Thr Cys Val
145   150   155   160

Val His Tyr Thr Gly Met Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser
                165   170   175

Arg Asp Arg Asn Lys Pro Phe Lys Phe Met Leu Gly Lys Gln Glu Val
            180   185   190

Ile Arg Gly Trp Glu Glu Gly Val Ala Gln Met Ser Val Gly Gln Arg
            195   200   205

Ala Lys Leu Thr Ile Ser Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His
    210   215   220

Pro Gly Ile Ile Pro Pro His Ala Thr Leu Val Phe Asp Val Glu Leu
225   230   235   240

Leu Lys Leu Glu Val Glu Gly Val Gln Val Glu Thr Ile Ser Pro Gly
                245   250   255

Asp Gly Arg Thr Phe Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr
            260   265   270

Thr Gly Met Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg
            275   280   285

Asn Lys Pro Phe Lys Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly
    290   295   300

Trp Glu Glu Gly Val Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu
305   310   315   320

Thr Ile Ser Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile
                              Page 25

```
                                    325                 330                 335
```

Ile Pro Pro His Ala Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu
            340   345   350

Glu Thr Arg Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg
            355   360   365

Thr Phe Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met
    370   375   380

Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro
385   390   395   400

Phe Lys Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu
            405   410   415

Gly Val Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser
            420   425   430

Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro
            435   440   445

His Ala Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Thr Ser
    450   455   460

Tyr
465

<210>   31
<211>   303
<212>   PRT
<213>   Artificial sequence

<220>
<223>   /note="Description of artificial sequence: FRB-p65 fusion"

<400>   31

Met Asp Tyr Pro Ala Ala Lys Arg Val Lys Leu Asp Ser Arg Ile Leu
1   5   10   15

Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr
                20   25   30

Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu
            35   40   45

His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe
    50   55   60
```

```
Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg
65              70              75              80

Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Leu Gln Ala Trp Asp
                85              90              95

Leu Tyr Tyr His Val Phe Arg Arg Ile Ser Lys Thr Arg Asp Glu Phe
            100             105             110

Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser Ala Leu
            115             120             125

Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro Ala Pro
    130             135             140

Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro Val Pro
145             150             155             160

Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala Pro Lys
            165             170             175

Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu Gln Leu
            180             185             190

Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser Thr Asp
            195             200             205

Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu Phe Gln
    210             215             220

Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr Glu Pro
225             230             235             240

Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Gly Ala
            245             250             255

Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu
            260             265             270

Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile Ala Asp
            275             280             285

Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser Thr Ser Tyr
    290             295             300
```

<210>   32

```
<211>  746
<212>  PRT
<213>  Artificial sequence

<220>
<223>  /note="Description of artificial sequence: VgECR from pVgRXR"

<400>  32
```

```
Met Ala Pro Pro Thr Asp Val Ser Leu Gly Asp Glu Leu His Leu Asp
1               5                   10                  15


Gly Glu Asp Val Ala Met Ala His Ala Asp Ala Leu Asp Asp Phe Asp
                20                  25                  30


Leu Asp Met Leu Gly Asp Gly Asp Ser Pro Gly Pro Gly Phe Thr Pro
                35                  40                  45


His Asp Ser Ala Pro Tyr Gly Ala Leu Asp Met Ala Asp Phe Glu Phe
        50                  55                  60


Glu Gln Met Phe Thr Asp Ala Leu Gly Ile Asp Glu Tyr Gly Gly Lys
65                  70                  75                  80


Leu Leu Gly Thr Ser Arg Arg Ile Ser Asn Ser Ile Ser Ser Gly Arg
                85                  90                  95


Asp Asp Leu Ser Pro Ser Ser Ser Leu Asn Gly Tyr Ser Ala Asn Glu
                100                 105                 110


Ser Cys Asp Ala Lys Lys Ser Lys Lys Gly Pro Ala Pro Arg Val Gln
            115                 120                 125


Glu Glu Leu Cys Leu Val Cys Gly Asp Arg Ala Ser Gly Tyr His Tyr
    130                 135                 140


Asn Ala Leu Thr Cys Gly Ser Cys Lys Val Phe Phe Arg Arg Ser Val
145                 150                 155                 160


Thr Lys Ser Ala Val Tyr Cys Cys Lys Phe Gly Arg Ala Cys Glu Met
                165                 170                 175


Asp Met Tyr Met Arg Arg Lys Cys Gln Glu Cys Arg Leu Lys Lys Cys
                180                 185                 190


Leu Ala Val Gly Met Arg Pro Glu Cys Val Val Pro Glu Asn Gln Cys
            195                 200                 205


Ala Met Lys Arg Arg Glu Glu Lys Ala Gln Lys Glu Lys Asp Lys Met
    210                 215                 220
```

Thr Thr Ser Pro Ser Ser Gln His Gly Gly Asn Gly Ser Leu Ala Ser
225   230   235   240

Gly Gly Gly Gln Asp Phe Val Lys Lys Glu Ile Leu Asp Leu Met Thr
                245   250   255

Cys Glu Pro Pro Gln His Ala Thr Ile Pro Leu Leu Pro Asp Glu Ile
                260   265   270

Leu Ala Lys Cys Gln Ala Arg Asn Ile Pro Ser Leu Thr Tyr Asn Gln
                275   280   285

Leu Ala Val Ile Tyr Lys Leu Ile Trp Tyr Gln Asp Gly Tyr Glu Gln
                290   295   300

Pro Ser Glu Glu Asp Leu Arg Arg Ile Met Ser Gln Pro Asp Glu Asn
305   310   315   320

Glu Ser Gln Thr Asp Val Ser Phe Arg His Ile Thr Glu Ile Thr Ile
                325   330   335

Leu Thr Val Gln Leu Ile Val Glu Phe Ala Lys Gly Leu Pro Ala Phe
                340   345   350

Thr Lys Ile Pro Gln Glu Asp Gln Ile Thr Leu Leu Lys Ala Cys Ser
                355   360   365

Ser Glu Val Met Met Leu Arg Met Ala Arg Arg Tyr Asp His Ser Ser
                370   375   380

Asp Ser Ile Phe Phe Ala Asn Asn Arg Ser Tyr Thr Arg Asp Ser Tyr
385   390   395   400

Lys Met Ala Gly Met Ala Asp Asn Ile Glu Asp Leu Leu His Phe Cys
                405   410   415

Arg Gln Met Phe Ser Met Lys Val Asp Asn Val Glu Tyr Ala Leu Leu
                420   425   430

Thr Ala Ile Val Ile Phe Ser Asp Arg Pro Gly Leu Glu Lys Ala Gln
                435   440   445

Leu Val Glu Ala Ile Gln Ser Tyr Tyr Ile Asp Thr Leu Arg Ile Tyr
                450   455   460

Ile Leu Asn Arg His Cys Gly Asp Ser Met Ser Leu Val Phe Tyr Ala
                                Page 29

465   470   475   480

Lys Leu Leu Ser Ile Leu Thr Glu Leu Arg Thr Leu Gly Asn Gln Asn
            485   490   495

Ala Glu Met Cys Phe Ser Leu Lys Leu Lys Asn Arg Lys Leu Pro Lys
            500   505   510

Phe Leu Glu Glu Ile Trp Asp Val His Ala Ile Pro Pro Ser Val Gln
            515   520   525

Ser His Leu Gln Ile Thr Gln Glu Glu Asn Glu Arg Leu Glu Arg Ala
    530   535   540

Glu Arg Met Arg Ala Ser Val Gly Gly Ala Ile Thr Ala Gly Ile Asp
545   550   555   560

Cys Asp Ser Ala Ser Thr Ser Ala Ala Ala Ala Ala Gln His Gln
            565   570   575

Pro Gln Pro Gln Pro Gln Pro Gln Pro Ser Ser Leu Thr Gln Asn Asp
            580   585   590

Ser Gln His Gln Thr Gln Pro Gln Leu Gln Pro Gln Leu Pro Pro Gln
    595   600   605

Leu Gln Gly Gln Leu Gln Pro Gln Leu Gln Pro Gln Leu Gln Thr Gln
    610   615   620

Leu Gln Pro Gln Ile Gln Pro Gln Pro Gln Leu Leu Pro Val Ser Ala
625   630   635   640

Pro Val Pro Ala Ser Val Thr Ala Pro Gly Ser Leu Ser Ala Val Ser
            645   650   655

Thr Ser Ser Glu Tyr Met Gly Gly Ser Ala Ala Ile Gly Pro Ile Thr
            660   665   670

Pro Ala Thr Thr Ser Ser Ile Thr Ala Ala Val Thr Ala Ser Ser Thr
            675   680   685

Thr Ser Ala Val Pro Met Gly Asn Gly Val Gly Val Gly Val Gly Val
    690   695   700

Gly Gly Asn Val Ser Met Tyr Ala Asn Ala Gln Thr Ala Met Ala Leu
705   710   715   720

```
Met Gly Val Ala Leu His Ser His Gln Glu Gln Leu Ile Gly Gly Val
              725             730                 735

Ala Val Lys Ser Glu His Ser Thr Thr Ala
              740             745
```

<210> 33
<211> 462
<212> PRT
<213> Artificial sequence

<220>
<223> /note="Description of artificial sequence: RXR from pVgRXR"

<400> 33

```
Met Asp Thr Lys His Phe Leu Pro Leu Asp Phe Ser Thr Gln Val Asn
1               5                   10                  15

Ser Ser Leu Thr Ser Pro Thr Gly Arg Gly Ser Met Ala Ala Pro Ser
              20              25                  30

Leu His Pro Ser Leu Gly Pro Gly Ile Gly Ser Pro Gly Gln Leu His
              35              40              45

Ser Pro Ile Ser Thr Leu Ser Ser Pro Ile Asn Gly Met Gly Pro Pro
      50              55              60

Phe Ser Val Ile Ser Ser Pro Met Gly Pro His Ser Met Ser Val Pro
65              70              75                  80

Thr Thr Pro Thr Leu Gly Phe Ser Thr Gly Ser Pro Gln Leu Ser Ser
              85              90                  95

Pro Met Asn Pro Val Ser Ser Ser Glu Asp Ile Lys Pro Pro Leu Gly
              100             105             110

Leu Asn Gly Val Leu Lys Val Pro Ala His Pro Ser Gly Asn Met Ala
              115             120             125

Ser Phe Thr Lys His Ile Cys Ala Ile Cys Gly Asp Arg Ser Ser Gly
      130             135             140

Lys His Tyr Gly Val Tyr Ser Cys Glu Gly Cys Lys Gly Phe Phe Lys
145             150             155                 160

Arg Thr Val Arg Lys Asp Leu Thr Tyr Thr Cys Arg Asp Asn Lys Asp
              165             170             175

Cys Leu Ile Asp Lys Arg Gln Arg Asn Arg Cys Gln Tyr Cys Arg Tyr
```

Gln Met Cys Leu Ala Met Gly Met Lys Arg Glu Ala Val Gln Glu Glu
        195   200   205

Arg Gln Arg Gly Lys Asp Arg Asn Glu Asn Glu Val Glu Ser Thr Ser
    210   215   220

Ser Ala Asn Glu Asp Val Pro Val Glu Arg Ile Leu Glu Ala Glu Leu
225   230   235   240

Ala Val Glu Pro Lys Thr Glu Thr Tyr Val Glu Ala Asn Val Gly Leu
            245   250   255

Asn Pro Ser Ser Pro Asn Asp Pro Val Thr Asn Ile Cys Gln Ala Ala
        260   265   270

Asp Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His
        275   280   285

Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Arg Ala Gly
    290   295   300

Trp Asn Glu Leu Leu Ile Ala Ser Phe Ser His Arg Ser Ile Ala Val
305   310   315   320

Lys Asp Gly Ile Leu Leu Ala Thr Gly Leu His Val His Arg Asn Ser
            325   330   335

Ala His Ser Ala Gly Val Gly Ala Ile Phe Asp Arg Val Leu Thr Glu
        340   345   350

Leu Val Ser Lys Met Arg Asp Met Gln Met Asp Lys Thr Glu Leu Gly
        355   360   365

Cys Leu Arg Ala Ile Val Leu Phe Asn Pro Asp Ser Lys Gly Leu Ser
    370   375   380

Asn Pro Ala Glu Val Glu Ala Leu Arg Glu Lys Val Tyr Ala Ser Leu
385   390   395   400

Glu Ala Tyr Cys Lys His Lys Tyr Pro Glu Gln Pro Gly Arg Phe Ala
            405   410   415

Lys Leu Leu Leu Arg Leu Pro Ala Leu Arg Ser Ile Gly Leu Lys Cys
            420   425   430

Leu Glu His Leu Phe Phe Phe Lys Leu Ile Gly Asp Thr Pro Ile Asp
        435   440   445

Thr Phe Leu Met Glu Met Leu Glu Ala Pro His Gln Met Thr
        450   455   460